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Lister Hill Center Development Effort

"Knowledge Bases" for Health Practitioners

The Lister Hill Center, NLM's research and development component, is developing an interdisciplinary research program involving the design, development, demonstration, testing, and evaluation of computerized knowledge bases in specialized areas of biomedicine. The goal of the program is the rapid transfer of new medical findings and research information to appropriate health professionals, particularly practitioners. The program was last described in the *NLM News* in December 1977.

A "knowledge base" is an integrated medical information system in which current biomedical literature in specialized areas is identified, selected, reviewed, condensed, and synthesized by experts. This information provides a basis for designing a delivery system to meet the needs of health professionals. In conjunction with developing the content, research encompassing contemporary computer and communications systems will explore methods for efficient literature identification, knowledge acquisition, and knowledge base construction, representation, and access. A goal of the Knowledge Base Program is to contribute to more effective access to and use of available biomedical information in solving the daily problems of diagnosis, prognosis and treatment of illness.

A prototype viral hepatitis knowledge base has been under development since November 1976. Based upon this experience two additional subject areas, peptic ulcer and human genetics, are being developed.

Hepatitis Knowledge Base

The initial steps in constructing this knowledge base were: identifying syntheses published by hepatitis experts; further synthesizing and reorganizing the content by Lister Hill Center staff; and obtaining consensus review and updating by a panel of ten subject matter experts.

The computerized Hepatitis Knowledge Base, containing two million characters (corresponding to approximately 400 pages), is organized hierarchically by topic. For each topic heading there is an accompanying synthesis statement which represents the state of knowledge. Each heading and synthesis is followed by supporting elements derived from published source documents. Included within supporting paragraphs are citations to primary publications used to provide authority for assertions made in the synthesis statements. Online access to the knowledge base is supported by a Data Genearl minicomputer, using the MUMPS/MIIS operating system and Hewlett-Packard 2648A graphics display terminals.

Consensus updating of the Hepatitis Knowledge Base is facilitated by use of the Elec-

Cont. p. 3

HEW Changed to HHS

With the establishment of the Department of Education on May 4th, the Department of Health, Education, and Welfare (HEW) officially became the Department of Health and Human Services (HHS).

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NEWS

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Serial Gap List

NLM is soliciting the help of the medical library community in filling gaps in our serial collections. If you can provide any of these items we would be most grateful. Please address them to:

National Library of Medicine
TSD-GAPS
Bethesda, Maryland 20209

Cellular and Molecular Biology 23: 4, 1978; 24: 3, 1979

Journal of Equine Medicine and Surgery 2: 1, 11, 1978; 3: 5, 1979

Newsletter of the Parapsychology Foundation 1: 1-5, 1953; 2: 1-6, 1955; 3: 1-6, 1956; 4: 1-6, 1957; 5: 1-6, 1958; 6: 1-6, 1959; 7: 1-6, 1960; 8: 1-6, 1961; 9: 1-6, 1962; 10: 1-6, 1963; 11: 2, 1964; 12: 6, 1965; 13: 3, 5, 1966

Pacific Sociological Review 1: 3, 4, 1958; 2: 3, 4, 1959; 3: 1-4, 1960; 4: 1-4, 1961; 5: 1-4, 1962; 6: 3, 4, 1963; 7: 3, 4, 1964; 8: 3, 4, 1965; 9: 3, 4, 1966; 10: 3, 4, 1967; 11: 3, 4, 1969; 13: 1-4, 1970; 14: 1-4, 1971; 15: 1-4, 1972; 16: 1-4, 1973; 20: 1-4, 1977

Pastoral Counselor 1: 1, 2, 1963; 2: 1, 1964

Patterns of Disease Mar-Apr, Jul-Aug, Sep-Oct 1968; Jan-Feb 1969

Pediatric Herald 1: 1, 1960; 3: 10, 1962; 4: 1, 8, 9, 10, 1963; 5: 3, 1964; 6: 7, 8, 1965; 10: 1, 2, 4, 1969; 12: 3, 4, 7, 1971; 13: 4, 1972; 14: 1, 6, 1973

Pediatricians Management 1: 1-6, 9, 12, 1965; 2: 11, 1966

Pennsylvania Psychiatric Quarterly 2: 2-4, 1962; 3: 2-4, 1963; 4: 1, 2, 4, 1964; 5: 2, 4, 1965; 6: 1-3, 1966; 7: 1, 1967

Personnel Notes

Staff Gains

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- Joseph Charuhas, Clerk-typist, Office of Inquiries and Publications Management
- Carol Christian, Secretary, National Medical Audiovisual Center
- John Cookson, Electronics Engineer, Lister Hill Center
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- Eleanor Rice, Secretary, National Medical Audiovisual Center
- Elizabeth Snow, Library Technician, Bibliographic Services Division
- Dorothy Trado, Clerk-typist, Technical Services Division

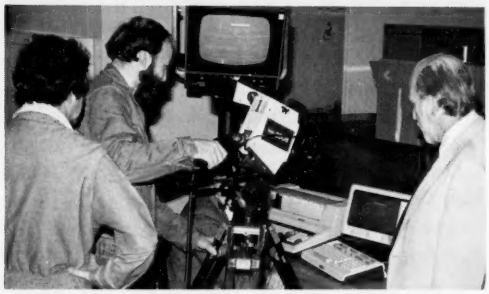
Staff Losses

- Richard Albrecht, Administrative Officer, Lister Hill Center
- Evelyn Beasley, Library Technician, Technical Services Division
- Daza Craig, Librarian, Technical Services Division
- Roger Hyath, Computer Systems Analyst, Office of Computer and Communications Systems
- John Murto, Computer Operator, Office of Computer and Communications Systems
- Steve Tobias, Personnel Management Specialist, Office of Personnel and Management Analysis

"Knowledge Bases," from p. 1

tronic Information Exchange System (EIES) computer conferencing network which serves as the principal medium of communication linking the geographically dispersed experts with the National Library of Medicine.

Initial field testing of the Hepatitis Knowledge Base has begun at the sites of the collaborating hepatitis experts. Physicians, medical students, librarians and other health professionals at these locations have received training in its use.



NLM's "Knowledge Bases" will be featured on an upcoming episode of "Fast Forward"—a PBS series dealing with the impact of technology on society. Dr. Lionel Bernstein (right), Director of the Lister Hill Center, watches as a crew from the program tapes a demonstration of the Hepatitis Knowledge Base.

An article about the program, written by staff of the Lister Hill Center, and the Hepatitis Knowledge Base itself will be published this summer in a supplement to the *Annals of Internal Medicine*.

Peptic Ulcer Knowledge Base

A second prototype knowledge base in the field of gastroenterology is being developed for peptic ulcer disease. Peptic ulcers are a common and often serious disorder, and there are significant new developments in diagnosis and treatment. The initial Peptic Ulcer Knowledge Base is derived from an existing synthesis. The content development is taking place in collaboration with members of the Center for Ulcer Research and Education (CURE) associated with the University of California at Los Angeles and the Wadsworth Veterans Administration Hospital. A panel of experts will also assist in developing and maintaining this knowledge base.

Human Genetics Knowledge Base

Disease, risk of disease, and risk to prospective offspring having significant genetic components are an enormous burden on the health care system and its users. Dr. V.A. McKusick's *Catalog of Mendelian Inheritance in Man* is the foundation for an expanded Human Genetics Knowledge Base that covers some 3,000 monogenic traits. Through consensus, a panel of subject matter experts will construct and subsequently update its contents.

The area of human genetics involves an additional requirement of technology integration and transfer—that of using emerging technologies for storing and retrieving both digital and visual information. For example, optical videodisc technology will permit massive storage of and random access to visual information either in the form of single illustrations or motion supplemented with audio. The combination of retrieving linked textual and visual materials will assist health practitioners by providing more ready access to current knowledge in the important, complex, and rapidly expanding field of human genetics.

For further information, please contact: A. Donald Merritt, M.D., Director, Knowledge Base Program, National Library of Medicine, Lister Hill National Center for Biomedical Communications, 8600 Rockville Pike, Bethesda, Maryland 20209.

Guide to Information Sources for Health Statistics Published

The Gale Research Co. has announced publication of *Health Statistics: A Guide to Information Sources*. This annotated bibliography, compiled by Frieda Weise of NLM's Reference Section, provides details on the coverage, completeness, and uniformity of health statistics reported by both government and private organizations. Following the main bibliography are appendixes devoted to newsletters and journals, government agencies, associations, regional depository libraries, and suppliers of bibliographic data files. Also included in the 137-page guide are a glossary and author, title, and subject indexes. Copies of the bibliography are available for $28 from the Gale Research Co. (Book Tower, Detroit, MI 48226).

Library Receives Award From American College of Physicians

"As a collector of information, a cataloguer of information, and an innovator of techniques for dissemination of information, the National Library of Medicine has distinguished itself in its contribution to the improvement of health in this nation."

The American College of Physicians used these words in presenting to the National Library of Medicine the College's Edward R. Loveland Memorial Award, given for distinguished contribution in the health field. The award was presented at the convocation of the College's 61st annual session in New Orleans on April 21. The College cited particularly the development of NLM's computer-based system (MEDLARS), its extensive research and development activities, its toxicology information program, and its medical audiovisual center.

NLM Deputy Director for Research and Education, Harold M. Schoolman, M.D., accepted the award on behalf of the Library.

Special Exhibit

An exhibit prepared by the University of Hawaii, entitled "An Opportunity Lost," was displayed in the NLM lobby from April 28 through May 9. The exhibit recounted the short history (1909-1913) of the Leprosy Investigation Station on the island of Molokai. At the opening of the exhibit, on April 28, about 150 invited guests and NLM staff gathered to listen to presentations by PHS Surgeon General Julius B. Richmond, M.D., Spark M. Matsunaga, U.S. Senator from Hawaii, and Jerrold M. Michael, Dean the School of Public Health, University of Hawaii.